

## Claims

1. A method for detecting misfires in an internal combustion engine, wherein a parameter (K) dependent on the acceleration of the internal combustion engine is continually determined by means of a monitoring and analysis method while an internal combustion engine is running and a misfire (VA) is detected based on a comparison of the parameter (K) with a threshold value (S), characterized in that the variance in the parameter (K) is determined and used to adjust the threshold value (S) to take account of changes in the even running of the internal combustion engine.
2. The method as claimed in claim 1, characterized in that the threshold value (S) is increased if there is a reduction in the even running of the engine, and reduced if there is an increase in the even running of the engine.
3. The method as claimed in claim 1 or 2, characterized in that the adjustment of the threshold value (S) is constantly repeated cyclically during operation of the internal combustion engine.
4. The method as claimed in one of the preceding claims, characterized in that it is used during the calibration of the internal combustion engine.
5. The method as claimed in one of the preceding claims, characterized in that a predefined time interval or a predefined number of power strokes is used in each

case as the variation range for the variance of the parameter (K).

6. The method as claimed in one of the preceding claims,

5 characterized in that it is performed on a cylinder-specific basis.

7. The method as claimed in one of the preceding claims, wherein an even running regulation method is used to correct the

10 combustion in cylinders of the internal combustion engine in order to increase the even running of the engine,

characterized in that the variance of the parameter (K) is used to check the result of the even running regulation.

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8. The method as claimed in one of the claims 6 and 7,

characterized in that if, after the even running regulation has been performed and the adjustment of the threshold value (S) has been completed, misfires continue to

20 occur in a cylinder, the combustion of said cylinder is detected as defective.